CLAIMS

I/We claim:

1. A selectively configurable circuit board, comprising:

a substrate having at least one component site adapted to receive a microelectronic component;

a plurality of board leads adapted to interface the circuit board with an external bus;

a plurality of board contacts arranged adjacent the component site, each of the board contacts being adapted to be electrically coupled to a component contact of a microelectronic component which may be received at the component site; and

selectively configurable circuitry carried by the substrate and adapted to selectively couple selected ones of the board contacts to selected ones of the board leads, the selectively configurable circuitry comprising at least one trace associated with each of the electrical connectors, at least one of the traces including a normally open thermally actuatable switch which can be selectively closed to create an electrical connection.

2. The selectively configurable circuit board of claim 1 wherein the thermally actuatable switch comprises a gap between two conductive lengths of the conductive trace and a thermally responsive member.

3. The selectively configurable circuit board of claim 1 wherein the thermally actuatable switch comprises a gap between two conductive lengths of the conductive trace, an exposed switch surface, and a thermally responsive member.

4. The selectively configurable circuit board of claim 3 wherein the thermally responsive member is formed of a thermally responsive material which will wet the exposed switch surface when selectively heated above an activation temperature.

5. The selectively configurable circuit board of claim 4 wherein the activation temperature comprises a melting point of the thermally responsive material.

6. The selectively configurable circuit board of claim 4 wherein the activation temperature comprises a glass transition temperature of the thermally responsive material.

7. The selectively configurable circuit board of claim 1 wherein the thermally actuatable switch comprises a gap between a first conductive length and a second conductive length of the conductive trace, a gap surface between the first and second conductive lengths, and a fusible member, the first conductive length being formed of a first conductive material and the second conductive length being formed of a second conductive material, the fusible member being formed of a fusible material which will flow to wet the gap surface at a temperature below a melting point of the first conductive material and a melting point of the second conductive material.

8. The selectively configurable circuit board of claim 1 wherein a plurality of the traces each include a normally open thermally actuatable switch which can be selectively closed to create an electrical connection.

9. The selectively configurable circuit board of claim 1 wherein a plurality of the traces each include a normally open thermally actuatable switch which can be selectively closed to create an electrical connection, each of the

thermally actuatable switches being adapted to be individually closed in response to a localized thermal stimulus without necessitating closure of any other thermally actuable switch.

10. The selectively configurable circuit board of claim 1 further comprising a closed switch in one of the traces, the closed switch comprising a normally open thermally actuatable switch which has been thermally actuated to create an electrical connection.

11. A processor-based system, comprising:

a system bus;

a processor coupled to the system bus; and

a selectively configured circuit board comprising:

a substrate having at least one component site;

a microelectronic component carried by the substrate at the component site;

a plurality of board leads coupled to the system bus;

a plurality of board contacts arranged adjacent the component site, at least some of the board contacts being individually coupled to component contacts carried by the microelectronic component;

a first trace carried by the substrate and electrically connecting one of the board contacts to one of the board leads, the first trace including a closed switch, the closed switch comprising a normally open thermally actuatable switch which has been thermally actuated to create an electrical connection; and

a second trace carried by the substrate and coupled to one of the board contacts and one of the board leads, the second trace including an open thermally actuatable switch which can be selectively closed to create an electrical connection.

12. An actuatable trace for a microelectronic assembly, comprising:

a first conductive length;

a second conductive length;

a gap disposed between and electrically separating the first and second conductive lengths and having an exposed gap surface; and

a fusible member in communication with the gap, the fusible member being spaced from the first and second lengths and being formed of a fusible material which will wet the gap surface when thermally actuated to electrically connect the first and second conductive lengths across the gap.

13. The actuatable trace of claim 12 wherein the first conductive length is formed of a first conductive material and the second conductive length is formed of a second conductive material, the fusible material having a melting point below a melting point of the first conductive material and a melting point of the second conductive material.

14. The actuatable trace of claim 12 wherein the first conductive material and the second conductive material are the same.

15. The actuatable trace of claim 12 wherein the first conductive length and the second conductive length are each formed of a first conductive material, the fusible material having a melting point below a melting point of the first conductive material.

16. The actuatable trace of claim 12 wherein the fusible material may be heated by exposure to laser radiation.

17. The actuatable trace of claim 12 wherein the exposed gap surface comprises a metal-coated surface.

18. The actuatable trace of claim 17 wherein the metal-coated surface comprises a coating of a metal wettable by the fusible material when the fusible material is flowable.

19. The actuatable trace of claim 17 wherein the metal-coated surface comprises a gold coating.

20. The actuatable trace of claim 12 wherein the first and second conductive lengths are carried by a substrate, the exposed gap surface comprising an exposed surface of the substrate.

21. The actuatable trace of claim 20 wherein the exposed substrate surface comprises a coating of a metal wettable by the fusible material when the fusible material is flowable.

22. The actuatable trace of claim 20 wherein the exposed substrate surface comprises a gold coating.

23. The actuatable trace of claim 20 wherein the fusible member is carried on the exposed substrate surface.

24. A selectively configurable circuit board comprising:

a substrate having at least one component site for receiving a microelectronic component; and

circuitry carried by the substrate, the circuitry including a plurality of selectively actuatable traces associated with the component site, at least one of the actuatable traces comprising:

a first conductive length;

a second conductive length;

a gap disposed between and electrically separating the first and second conductive lengths and having an exposed gap surface; and

a fusible member in communication with the gap, the fusible member being spaced from the first and second lengths and being formed of a fusible material which will wet the gap surface when thermally actuated to electrically connect the first and second conductive lengths across the gap.

25. The selectively configurable circuit board of claim 24 wherein the first conductive length is formed of a first conductive material and the second conductive length is formed of a second conductive material, the fusible material having a melting point below a melting point of the first conductive material and a melting point of the second conductive material.

26. The selectively configurable circuit board of claim 24 wherein the first conductive material and the second conductive material are the same.

27. The selectively configurable circuit board of claim 24 wherein the first conductive length and the second conductive length are each formed of a first conductive material, the fusible material having a melting point below a melting point of the first conductive material.

28. The selectively configurable actuatable trace of claim 24 wherein the fusible material may be heated by exposure to laser radiation.

29. The selectively configurable circuit board of claim 24 wherein the exposed gap surface comprises a metal-coated surface.

30. The selectively configurable circuit board of claim 29 wherein the metal-coated surface comprises a coating of a metal wettable by the fusible material when the fusible material is flowable.

31. The selectively configurable circuit board of claim 29 wherein the metal-coated surface comprises a gold coating.

32. The selectively configurable circuit board of claim 24 wherein the first and second conductive lengths are carried by a substrate, the exposed gap surface comprising an exposed surface of the substrate.

33. The selectively configurable circuit board of claim 32 wherein the exposed substrate surface comprises a coating of a metal wettable by the fusible material when the fusible material is flowable.

34. The selectively configurable circuit board of claim 32 wherein the exposed substrate surface comprises a gold coating.

35. The selectively configurable circuit board of claim 32 wherein the fusible member is carried on the exposed substrate surface.

36. The selectively configurable circuit board of claim 24 wherein a second one of the actuatable traces comprises a third conductive length formed of a third conductive material, a fourth conductive length formed of a fourth conductive material, a gap between the third and fourth conductive lengths, and a fused bridge which spans the gap to electrically connect the third and fourth conductive lengths, the fused bridge being formed of a conductive material which is different from, and has a lower melting point than, the third conductive material and the fourth conductive material.

37. A method of manufacturing a microelectronic device assembly including a microelectronic component and a circuit board comprising:

electrically coupling each of a plurality of component contacts of the microelectronic component to one of a plurality of board contacts carried by the circuit board, the circuit board carrying a plurality of configurable traces associated with the board contacts and each of the configurable traces includes at least one normally open thermally actuatable switch;

identifying a first normally open thermally actuatable switch from the plurality of normally open thermally actuatable switches; and

locally heating the first switch to selectively close the first switch to define an electrical pathway between at least one of the board contacts and at least one of a plurality of board leads carried by the circuit board.

38. The method of claim 37 wherein the first switch includes a thermally responsive member and a gap between two conductive lengths of one of the configurable traces, selectively closing the first switch comprising heating the thermally responsive member.

39. The method of claim 37 wherein the first switch includes a thermally responsive member and a gap between two conductive lengths of one of the configurable traces, selectively closing the first switch comprising heating the thermally responsive member sufficiently to cause it to flow and define an electrically conductive path between the two conductive lengths.

40. The method of claim 37 wherein the first switch includes a thermally responsive member, a gap between two conductive lengths of one of the configurable traces, and an exposed gap surface, selectively closing the first

switch comprising heating the thermally responsive member and causing it to wet the gap surface.

41. The method of claim 40 wherein the thermally responsive member is heated to a temperature below a melting point of the conductive lengths.

42. The method of claim 37 further comprising identifying a second one of the normally open thermally actuatable switches and locally heating the second switch to selectively close the second switch to define an electrical pathway between at least one of the board contacts and at least one of a plurality of board leads carried by the circuit board.